Why patients with dementia need a motor examination

JNNP Editorial on Ahmed et al (in press) and on assessment of motor symptoms in dementia

Why dementia patients need a motor exam

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About 25 years ago, the world of neurodegenerative diseases was dominated by a clear and intuitively appealing distinction. On one hand, there were dementias, disorders of cognition, in which patients could develop problems with memory, language, attention or orientation, but in which motor functions were assumed to be preserved. On the other hand, there were motor disorders, affecting movement but leaving cognition intact. Dementia and movement specialists rarely interacted; they attended different conferences, read different journals (or at least articles) and used different assessment tools. The division was stronger in Anglo-saxon countries than in Continental Europe, with its tradition of linking neurology and psychiatry.

Since then, dozens of clinical studies have shown that cognitive symptoms are frequent in so-called motor disorders and vice versa [1]. Advances in basic sciences unearthed a large amount of overlap in molecular biology and genetics between "motor" and "cognitive" disorders. Theoretical models have been developed, in which movement and cognition form part of the same functional systems [2]. And yet, all these insights seem to have only limited influence on everyday clinical practice: a recent worldwide survey showed that motor functions are not examined routinely in a large proportion of dementia patients [3].

The importance of integrating movement and cognition is clearly illustrated by the recent paper of Ahmed et al [4], examining the prevalence of apraxia in 111 patients from an early dementia clinic. Limb apraxia affected 92% of patients with Posterior Cortical Atrophy (PCA), 69% with Alzheimer's Disease (AD) and 67% with logopenic aphasia. Importantly, the presence of apraxia could discriminate between AD and Fronto-Temporal Dementia, making it useful in differentiating both diseases. The results extend substantially earlier observations of apraxia in Posterior Cortical Atrophy [5].

Apraxia is a good place to start the re-integration of movement and cognition. It is exactly at the intersection between both and one could argue whether it should be classified as a cognitive or a motor deficit. Cortico-basal degeneration (CBD), in which apraxia is considered as one of its pathognomonic features, has been originally classified as a motor and subsequently re-defined as a cognitive disorder [6]. But in order to interpret the results of apraxia examination we need to assess both cognition (e.g. did the patient understand the instructions?) and movement (was the performance influenced by parkinsonism, dystonia, tremor, weakness, cerebellar dysfunction etc?). The authors of Ahmed et al 2016 study were fortunate in that all their patients received a full neurological examination. But as mentioned above, motor exam is currently not part of the routine assessment in many dementia clinics.

What we need, therefore, is a brief motor screening, easy to use, score and interpret, so that it could become part of the routine assessment in dementia clinics, whether run by neurologists, psychiatrists, geriatricians or any other specialty. Currently, no such tool is available, but the first steps in this direction have been done with the Edinburgh Motor Assessment (EMAS): a simple 7-10 minutes motor screening test, specifically designed for use in dementia patients [7]. Hopefully, it will draw more attention to motor symptoms in dementia and help clinicians to assess them.

References:

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